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## **Evidence Based Medicine**

### **My patient just had a transient ischaemic attack. Can I predict his risk for stroke? Is stroke inevitable or preventable?**

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#### **Transient Ischaemic Attack:**

Transient Ischaemic attack or TIA has traditionally been defined as a discrete neurological deficit lasting for < 24 hours. The new definition of a TIA is that of a brief neurological dysfunction caused by focal brain or retinal ischaemia and lasting for < 1 hour without signs of infarction on brain MRI. Hence, a tissue based rather than a time based definition is being proposed.

#### **What is the risk of recurrent TIA after an index TIA? What is the risk of stroke?**

TIA puts a patient at a higher risk of subsequent stroke with a 2-day risk being quoted at 5-6%, 90-day stroke risk estimated at 10.5% and a 6-month stroke risk estimated to be 17%. It is important to realize that a subset of patients is at a higher risk of recurrent TIA as opposed to a subset which is at higher risk for a subsequent stroke. Those older than 60 years are at higher risk for both TIA and stroke. Additionally those with Diabetes, those with motor weakness and those

with speech impairment are at a higher risk of subsequent stroke and therefore need to be managed more aggressively.

#### **Risk stratification after a TIA — The ABCD-2 score:**

ABCD 2 score is now a well recognized prognostic score for predicting individuals at high risk for stroke. BP in excess of 140/90, unilateral weakness and duration of symptoms >60 min are the strongest risk factors for recurrent events.

Based on this score, low risk is defined as a score of less than 4 (stroke risk 1.0% at 2 days, 1.2% at 7 days, and 3.1% at 90 days), moderate risk is a score of 4 or 5 (stroke risk 4.1% at 2 days, 5.9% at 7 days, and 9.8% at 90 days), and high risk is a score of greater than 5 (stroke risk 8.1% at 2 days, 11.7% at 7 days, and 17.8% at 90 days).

#### **What investigations are warranted once a TIA is diagnosed?**

Recommended acute approaches in patients with TIA

**Table: Validated Scale for Predicted 2-day stroke risk after TIA.**

Factor	Description	Points
Age	≥ 60 years	1
Blood Pressure	SBP>140 and DBP>90 mm HG	1
Clinical Features	Unilateral weakness	2
	Speech impairment w/o weakness	1
Duration	≥ 60 min	2
	10-59 min	1
Diabetes	Self reported history	1
<b>Total score</b>		<b>9</b>

Ref: Johnston et al.<sup>4</sup>

include, brain imaging, preferably MRI with MR angiography, ECG to rule out rhythm abnormality and echocardiography to exclude cardio-embolism and carotid imaging for significant stenosis. Expedited testing based on ABCD2 score appears to be the way for high risk patients.

### What therapy is indicated after a TIA?

For TIAs of cardioembolic origin, warfarin is irrefutably the only therapeutic option at present. For non-cardioembolic TIAs, there is very little direct evidence to guide management after and index TIA. The available evidence comes from two recent trials, FASTER and EARLY.

FASTER was a pilot trial designed to test early aggressive use of dual anti-platelets aspirin and clopidogrel after TIA or minor stroke. It showed that the early high risk can be decreased with the combination without the excess risk of haemorrhage.

EARLY is the other trial that investigated the benefit of combination anti-platelets (aspirin and dipyridamole in this case) when started within 24 hour of symptom onset as

opposed to starting at 7 days. The trial showed that it is just as safe and efficacious to start early than late with no significant differences in terms of disability. In total, these early phase trials suggest that early dual anti-platelet therapy may be safe after a TIA.

### Conclusion

All patients presenting with TIA must be risk stratified using the ABCD-2 score and investigated promptly. It may be safe to start dual anti-platelets for the initial one week. Future trials in Pakistani patients to validate the TIA scores locally would be useful.

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### Recommended Reading

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